## **Abstract**

The invention relates to a method and device for ion beam processing of surfaces, whereby the substrate is positioned facing an ion beam and a new technologically-defined pattern of properties is established. According to said method, the current geometrical effect pattern of the ion beam on the surface (15) of the substrate (8) is adjusted depending on the known pattern of properties and the new technologically-defined pattern of properties and depending on the progress of the processing, by modifying the beam characteristic and/or by pulsing the ion beam. Said device comprises a substrate support, for holding at least one substrate (8), which can be moved along an Y-axis (4) and an X-axis (6) and an ion beam source (1), for generating an ion beam which is perpendicular to the surface (15) to be processed of the substrate (8) in the Z-axis (11) or which may be arranged in an axis, inclined in relation to the Z-axis. The distance between the ion beam source (1) and the surface (15) to be processed of the substrate (8) may be fixed or variable.